REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 1-60 are pending in the application.

In the previous Action, the Office rejected originally submitted claims 1-51 in view of a primary reference, U.S. Patent No. 6,307,541 to Ho et al., alone and in combination with multiple secondary references. Applicant's response was apparently persuasive as the Office has withdrawn the rejection of the claims in view of these previously cited references. However, the Office has now raised new grounds for rejecting the claims, which are addressed fully below.

Applicant thanks the Examiner once again for a detailed analysis presented in the Office Action.

Claim 11

Claim 11 is noted on the summary sheet as being rejected, but is not directly addressed in the Action. It is unclear what art is being applied in the rejection of claim 11. For this Response, since the claimed feature is similar to features found in other rejected claims, Applicant has assumed that the omission of claim 11 in the Action was an unintended oversight. If the assumption is correct, Applicant requests clarification by the Office as to how the art is being applied to claim 11.

Claim Rejections under 35 U.S.C. § 103

Claims 1-7, 9-10, 15-26, 29-33, 36-42, 45-57, and 59-60 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,674,372 to

Ouyang (hereinafter, "Ouyang") in view of U.S. Patent No. 6,014,615 to Chen (hereinafter, "Chen"). Applicant respectfully traverses the rejection.

As a preliminary matter, all pending claims 1-60 are rejected in view of the Ouyang and Chen combination (with some claims also being rejected further in view of additional references). The combination of Ouyang and Chen is improper for a number of reasons. First, there is no motivation to combine these references. Ouyang is directed to a device, such as a cellular phone, with a numeric keypad and limited screen area. Ouyang is concerned with the challenges of entering Chinese characters with a limited number of keys, such as a 12-key keypad. In contrast, Chen describes a personal computer with a full-size QWERTY keyboard and monitor. Chen's system does not even address how characters are input, other than to say that input is accomplished using a keyboard.

Input of Chinese characters using a 12-key keypad (such as those found on cellphones and PDAs) poses entirely different problems and issues, with unique considerations, in comparison to input of Chinese characters using a full-size QWERTY keyboard. A skilled artisan attempting to address the issues of inputting Chinese characters using a numeric keypad would not have been compelled or motivated to consider Chen's computer system with full-size keyboard. Moreover, there is no motivation or suggestion in Chen whatsoever to implement his technology in a mobile device with a small 12-key keypad. The Office fails to describe how the references themselves suggest such a combination.

Further, it is unclear whether the Ouyang device could even be modified to implement Chen's computer-implemented system. There is no teaching in Chen of implementing the system in mobile devices. There is no indication that input design issues faced by device designers were even contemplated by Chen. The

Action fails to describe how this combination would be made. Ouyang's cellular phone would have to be severely modified, much beyond its teachings, in order to implement the system of Chang.

For these reasons, the combination relied on throughout the Office Action is improper and should not have been made. Applicant respectfully requests reconsideration of the cited combination, and withdrawal of all §103 rejections using this combination.

The flaws in the combination are even more apparent when attempting to apply them to the claimed invention. Accordingly, the remainder of these remarks addresses the rejections in a claim-by-claim analysis.

Claim 1 defines a mobile device, comprising:

> a keypad of number keys, the number keys having associated letters;
>
> a language system to receive an input string entered via the keypad that is representative of one or more phonetic characters and generate likely language characters based on the input string;
>
> a display to present the likely language characters for user selection; and
>
> the language system being configured to facilitate input of the input string and selection of a language character without switching modes between input and selection.

As described in one exemplary implementation in the subject application, Applicant's claimed mobile device has a keypad with numbers, where the number keys have associated letters. Fig. 1 of the subject application is reproduced below.

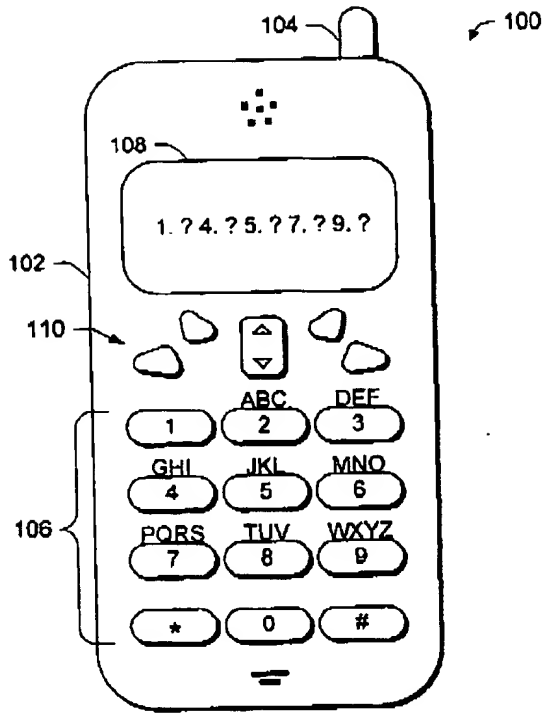


Fig. 1

The mobile device constructs a phonetic character (e.g., Pinyin) through input of a string of letters by pressing the corresponding lettered keys of the keypad. For example, to input the phonetic Pinyin text "mi" or "ni", the user would press 6 to input "m" or "n" and then 4 to yield "mi" or "ni". With each input, the mobile phone presents possible language characters (e.g., Hanzi). The available choices are indexed by specifically chosen keys that have associated letters of the alphabet that do not follow the phonetic characters already entered. Continuing the above example, after the user enters "64", keys 1, 4, 5, 7, and 9 are chosen as selection keys because the letters associated with digits 4 (GHI), 5 (JKL), and 7 (PQRS) (note that digits 1 and 9 do not have any associated letters) would not follow a Pinyin string of "mi" or "ni". The possible language characters (e.g., Chinese Hanzi characters) are thus assigned to the selection keys 1, 4, 5, 7,

and 9. If the user sees a word that he/she wants to input, the user can directly press any one of the keys 1, 4, 5, 7, and 9 for immediate selection of the corresponding language character.

The remaining keys 2, 3, 6, and 8 continue being input keys because they correspond to phonetic characters that still might be entered. For example, following entry of "mi" or "ni" by pressing keys 6 and 4, the user may be intending to enter the Pinyin text "min" or "nin". Thus, pressing the key 6 again will form a three digit input of 6, 4, 6 for further input of phonetic text to yield "min" or "nin", rather than selection of a converted character.

Accordingly, depending upon the user's input, the device dynamically adjusts which keys are used to index possible language characters and which keys are used to receive further phonetic text, thereby allowing differentiation between the user's input of an additional phonetic text and the user's confirmation of an intended converted language character. In this manner, the user need not switch modes between input and selection, as they are seamlessly integrated.

The combination of Ouyang and Chen fails to teach or suggest the mobile device of claim 1. The primary reference, Ouyang, describes a device, such as a cellphone, with a numeric keypad customized for entry of Chinese text. Instead of having letters associated with the numbered keys, this customized keypad assigns specific phonetic symbols and tone symbols to the numbered keys. (*Ouyang*, Fig. 1 and col. 6, line 36 through col. 7, line 9). The user presses a key to input the corresponding phonetic symbol or tone signal. Fig. 2 of Ouyang is reproduced below.

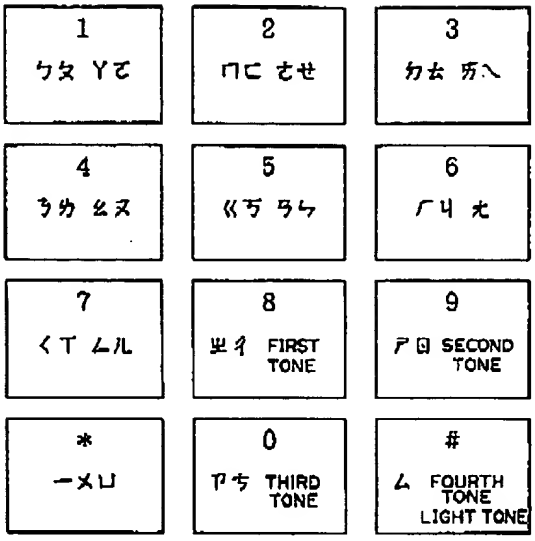
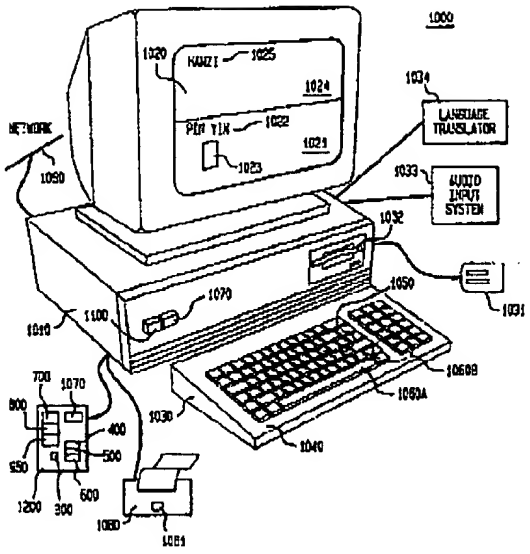


Fig 2 of the Ouyang Reference

Unlike Ouyang, the secondary reference, Chen, describes a computer system for converting Pinyin to Hanzi. Chen's computer system uses a full size QWERTY keyboard. (*Chen*, Fig. 1). The user employs the full size keyboard 1030 to enter Pinyin text into the system, where it is displayed on a first section 1021 of a split screen. The system converts the Pinyin to Hanzi, and displays Hanzi characters in a second section 1024 of the split screen. (*Chen*, Fig. 1, col. 6, lines 21-33). Fig. 1 of Chen is reproduced below.

FIG. 1



The cited combination does not teach or suggest a mobile device having "a keypad of number keys, the number keys having associated letters" as required by claim 1. Ouyang describes a keypad with number keys, but the number keys do not have associated letters; rather, the number keys are assigned corresponding phonetic and tone symbols. Chen describes a full size QWERTY keyboard, and is silent as to a keypad with number keys that are used for entry of phonetic characters.

For this reason alone, claim 1 is patentable over the combination of Ouyang and Chen.

Secondly, the cited combination does not teach or suggest a mobile device with a "language system" that is "configured to facilitate input of the input string and selection of a language character without switching modes between input and selection" as required by clam 1. The Office acknowledges that Ouyang does not teach this feature. (*Office Action of 2/9/05, page 2*). The Office relies on Chen as

teaching this aspect, and particularly points to Fig. 4 and accompanying text beginning at column 10, line 50. (*Office Action of 2/9/05, pages 2-3*). Applicant disagrees.

According to Chen, Fig. 4 shows a "process for keyboard input that produces a Pinyin word registration in the memory." (*Chen*, col. 5, lines 31-33). The user enters Chinese or English text through the keyboard 1030, where Chinese syllables are followed by a diacritic and English syllables are not, but are delimited by spaces. (*Chen*, col. 10, lines 50-67). The entered Pinyin is displayed in a first section 1021 of the monitor (see Fig. 1). When the end of a syllable is reached, the system reads the diacritic. (*Chen*, col. 11, lines 12-14). The system converts the Pinyin to Hanzi, and displays the Hanzi in the second section 1024 of the monitor. Unlike mobile devices with limited entry keys and limited screen area (as in claim 1), Chen is not concerned with switching modes between input and selection because Chen's system employs a large monitor with sufficient screen area to show both the input Pinyin (*Chen*, Fig. 1, Pinyin section 1021) and converted Hanzi (*Chen*, Fig. 1, Hanzi section 1024). Chen's system further includes a full size keyboard where the user need not worry about switching between input and selection as there are many keys for both purposes. Thus, Chen does not suggest a "language system" that is "configured to facilitate input of the input string and selection of a language character without switching modes between input and selection" as required by claim 1.

For this additional reason, claim 1 is patentable over Ouyang and Chen.

Finally, the Office argues that it would have been obvious to one of ordinary skill to provide the teaching of Chen into the system of Ouyang in order to speed up the language conversion process. (*Office Action of 2/9/05, pages 3*).

Applicant disagrees. A skilled artisan would not have combined these references, as there is no motivation to combine Ouyang and Chen given that they are entirely different systems. Ouyang is directed to a device with a numeric keypad and the challenges of entering Chinese characters with a limited number of keys. In contrast, Chen describes a personal computer with a full-size QWERTY keyboard and monitor. Input of Chinese characters using a limited keypad (such as those found on cellphones and PDAs) poses entirely different issues, with unique considerations, in comparison to input of Chinese characters using a full-size QWERTY keyboard. A skilled artisan attempting to address the issues of inputting Chinese characters using a numeric keypad would not have been compelled or motivated to consider Chen's computer system with full-size keyboard.

For the above reasons, claim 1 is allowable over the combination of Ouyang and Chen. Applicant respectfully requests that the §103 rejection be withdrawn.

Dependent claims 2-7, 9-10, and 15-16 depend from claim 1 and are allowable by virtue of this dependency. Moreover, these claims recite features that, when taken together with those of claim 1, define devices not taught or suggested by Ouyang and Chen.

For example, **dependent claim 3** states "the likely language characters are presented on the display in an index that associates selection keys of the keypad with the language characters so that user entry of a selection key results in a selection of a corresponding language character and user entry of a non-selection key results in further input." To illustrate this aspect, an exemplary embodiment in the specification describes that, following input of a Pinyin string of "mi" or "ni", possible language characters (e.g., Chinese Hanzi characters) are assigned to

the selection keys 1, 4, 5, 7, and 9. If the user sees a word that he/she wants to input, the user can directly press any one of the keys 1, 4, 5, 7, and 9 for immediate selection of the corresponding language character. However, user entry of remaining keys 2, 3, 6, and 8 results in further input because they correspond to phonetic characters that still might be entered. For example, following entry of "mi" or "ni" by pressing keys 6 and 4, the user may be intending to enter the Pinyin text "min" or "nin". Thus, pressing the key 6 again will form a three digit input of 6, 4, 6 for further input of phonetic text to yield "min" or "nin", rather than selection of a converted character.

The cited combination fails to teach or suggest this feature. Both Ouyang and Chen are silent as to this feature. The Office argues that this aspect is taught by Chen at column 13-15. (*Office Action of 2/9/05, pages 3*). However, this excerpt merely describes the Pinyin-to-Hanzi conversion process of Fig. 5. Nowhere in this excerpt is there any discussion of displaying an "an index that associates selection keys of the keypad with the language characters so that user entry of a selection key results in a selection of a corresponding language character and user entry of a non-selection key results in further input" as required by claim 3. Indeed, Chen teaches that the Pinyin is displayed in one screen area, and the converted Hanzi in another. Since the screen space is not limited and both input and converted text can be displayed simultaneously, Chen does not need to associate keys on the keyboard with language characters presented on the display, while reserving other keys on the keyboard for further input. For this additional reason, claim 3 is allowable over the cited combination.

Dependent claim 4 requires "the selection keys being selected based on whether the letters associated therewith follow the phonetic characters already

entered." Ouyang and Chen fail to teach this aspect. Chen does not even address such a concept, let alone teach changing different selection keys on its keyboard based on "whether the letters associated therewith follow the phonetic characters already entered."

Dependent claim 10 recites that "the language system includes a direct key-based search engine that generates the language characters based on a key sequence entered on the keypad in lieu of converting the phonetic characters to the language characters." The combination does not teach or suggest this aspect, as is discussed in more detail below with reference to claim 17. For this additional reason, claim 10 is allowable over Ouyang and Chen.

Independent claim 17 defines a mobile device comprising "a keypad of number keys, the number keys having associated letters of an alphabet" and "a direct key-based search engine that generates possible language characters that are not part of the alphabet based on a key sequence entered on the keypad."

The cited combination does not teach or suggest the mobile device of claim 17. Neither reference teaches a "keypad of number keys" where the number keys have "associated letters of an alphabet". Ouyang shows a keypad, but not one with numbered keys with associated letters of an alphabet. Instead, Ouyang merely shows number keys with associated phonetic symbols of the Chinese language. Chen also fails to teach this aspect.

Additionally, neither reference teaches the claimed "direct key-based search engine". The Office admits that Ouyang does not teach this aspect, but argues that Chen does. (*Office Action of 2/9/05, pages 4*). More specifically, the Office cites column 13, lines 54-67, column 14, lines 1-67, column 15, lines 1-14, column 17,

lines 40-67, and column 18, lines 1-3 of Chen for this teaching. Based on a review of these excerpts, Applicant respectfully disagrees with the Office's position.

Preliminarily, Applicant notes that Chen does not teach entry of phonetic text via a keypad and hence does not teach generation of "possible language characters that are not part of the alphabet *based on a key sequence entered on the keypad.*" This will become even more readily apparent with a review of the excerpts cited by the Office.

At column 13, line 54 through column 15, line 14, Chen describes the process 500 in Fig. 5 of translating Pinyin into Hanzi. The process involves a morphological analysis to determine the constituent words in a word string. (*Chen*, col. 13, lines 60-67 and col. 14, lines 21-22). Per Chen, morphology is the study of word formation in a language. (*Chen*, col. 14, lines 12-13). The words are compared to a vocabulary or dictionary. (*Chen*, col. 14, lines 22-33). If the word matches a single word in the vocabulary (i.e., it is unique), the word is converted to Hanzi and displayed. (*Chen*, col. 14, lines 34-38). If the word is not unique (i.e., there may be more than one possible Hanzi form), the different words are stored for more consideration. (*Chen*, col. 14, lines 38-42). If the word is not in the vocabulary, morphological analysis is performed on the string. (*Chen*, col. 14, lines 43 to col. 15, line 3). Finally, if the string remains ambiguous (or non-unique) after the morphological analysis, the string is analyzed to determine the meaning of any ambiguous word(s) at step 540, which is process 600 of Fig. 6. (*Chen*, col. 15, lines 4-14). Process 600 presents a "novel syntactical analysis". (*Chen*, col. 17, lines 4-7). Part of this process involves comparison of words to a function word list and an affix list. (*Chen*, col. 17, lines 40-54).

Accordingly, nowhere in the excerpts cited by the Office does Chen describe "a direct key-based search engine that generates possible language characters that are not part of the alphabet based on a key sequence entered on the keypad" as required by claim 17. Instead, Chen describes process intensive methods involving morphological analysis and syntactical analysis. Neither of the analyses involves generating possible language characters based on a key sequence entered on the keypad. Indeed, Chen does not even contemplate generating possible language characters based on keystroke sequences on the keyboard. Moreover, Chen would not need to contemplate a direct-key based search engine because it is not directed to a device (e.g., mobile device) with limited input capabilities (i.e., a 12-key keypad), limited output (i.e., a small screen) and limited processing capabilities. Chen's computing system has the luxury of handling process-intensive analyses of word strings entered using a full-size keyboard.

For these reasons, the cited combination does not teach or suggest the mobile device of claim 17. Applicant respectfully requests that the §103 rejection of claim 17 be withdrawn.

Dependent claims 18-20 depend from claim 17 and are allowable by virtue of this dependency. Moreover, these claims recite features that, when taken together with those of claim 17, define mobile devices not taught or suggested by Ouyang and Chen.

Independent claim 21 defines a mobile device, comprising:

> a keypad of number keys, the number keys having associated letters of an alphabet;

an association module that associates a key sequence with language characters that are not part of the alphabet; and

a display to present the possible language characters as the user depresses individual keys based on the key sequence.

Ouyang and Chen fail to teach this mobile device. For the reasons given above with respect to claim 17, the cited combination fails to teach or suggest the claimed "keypad of number keys" where the number keys have "associated letters of an alphabet." The cited combination further fails to teach "an association module that associates a key sequence with language characters that are not part of the alphabet" and "a display to present the possible language characters as the user depresses individual keys based on the key sequence." The Office admits that Ouyang does not teach these aspects. (*Office Action of 2/9/05*, page 5). However, the Office cites Chen for this teaching, specifically noting element 420 in Fig. 4 and an excerpt bridging columns 11 and 12. Applicant disagrees.

First, Applicant is unable to find an element 420 in Fig. 4. If the rejection is maintained, clarification is requested. Second, the excerpt bridging columns 11 and 12 merely describes coding Mandarin syllables with unique two-byte codes. For instance, the Mandarin Pinyin symbol Pi'n is assigned a two-byte code "814". However, nowhere in this excerpt is there any teaching that this code corresponds to a key sequence from the keyboard. Thus, Chen does not teach "an association module that associates a key sequence with language characters that are not part of the alphabet" as required by claim 21.

For these reasons, claim 21 is allowable over the cited combination and the §103 rejection should be withdrawn.

Dependent claims 22-23 depend from claim 21 and are allowable by virtue of this dependency.

Independent claim 24 defines a mobile device comprising:

> a keypad of number keys, the number keys having associated letters of an alphabet;
>
> a language system to receive an input string of letters from the alphabet entered via associated number keys of the keypad, where the input string of letters is representative of one or more phonetic characters, and to convert the phonetic characters to language characters that are not part of the alphabet using a statistical language model that utilizes at least one neighboring word in a common sentence; and
>
> a display to present the language characters for user selection.

The combination of Ouyang and Chen fails to teach the claimed mobile device. The Office recognizes that Ouyang does not teach the language system. (*Office Action of 2/9/05*, page 6), but again relies on Chen for this teaching. Again, Applicant respectfully disagrees. First, Chen fails to teach a "language system to receive an input string of letters from the alphabet entered via associated number keys of the keypad, where the input string of letters is representative of one or more phonetic characters" as required by claim 24. This has been addressed above in detail. Secondly, Chen fails to teach "a language system . . . to convert the phonetic characters to language characters that are not part of the alphabet using a statistical language model that utilizes at least one neighboring word in a common sentence." The Office cites the same excerpts as above with respect to claim 17, which discussed morphological and syntactical analyses. Nowhere does Chen describe in these excerpts a language system that converts phonetic characters to language characters "using a statistical language model that

utilizes at least one neighboring word in a common sentence" as required by claim 24. If the rejection is maintained, Applicant requests that the Office's reasoning be further explained.

For these reason alone, claim 24 is allowable over the cited combination of Ouyang and Chen. Accordingly, Applicant requests that the §103 rejection be withdrawn.

Dependent claims 25-26 depend from claim 24 and are allowable by virtue of this dependency.

Independent claim 29 defines a method comprising "receiving an input string entered via a keypad", "presenting likely language characters based on the input string", and "facilitating continued entry of the input string and selection of a suitable language character without switching modes between input and selection."

For the reasons given above with respect to claim 1, Ouyang and Chen do not teach or suggest this method. Namely, the cited combination does not suggest "facilitating continued entry of the input string and selection of a suitable language character without switching modes between input and selection."

Applicant respectfully requests allowance of claim 29.

Dependent claims 30-33 and 36 depend from claim 29 and are allowable by virtue of this dependency.

Independent claim 37 requires:

> receiving an input string entered via a numeric-based keypad where number keys in the keypad have associated letters in an alphabet, the input string being representative of one or more phonetic characters;

converting the input string of phonetic characters to possible language characters that are not part of the alphabet; and

presenting the language characters using an index that associates selection keys of the keypad with the language characters, the selection keys being chosen based on whether the letters associated with the selection keys are likely to follow the phonetic characters already entered.

For the reasons given above with respect to claims 1 and 3, the cited combination fails to teach or suggest this method. Claim 37 is therefore allowable over Ouyang and Chen and the §103 rejection should be withdrawn.

Dependent claims 38-42 depend from claim 37 and are allowable by virtue of this dependency.

Independent claim 45 defines a method comprising "facilitating entry of phonetic characters via discrete keys of a keypad" and "generating possible language characters intended by the user based on a key sequence entered on the keypad in lieu of converting the phonetic characters to the language characters."

For the reasons given above with respect to claim 17, the cited combination does not teach or suggest this method. The Office admits that Ouyang does not teach the "generating" element. Chen is silent as to this feature as well. Chen uses morphological and syntactical analyses to convert Pinyin to Hanzi. Thus, Chen does not teach, or effectively teaches away from, "generating possible language characters intended by the user *based on a key sequence entered on the keypad* in lieu of converting the phonetic characters to the language characters."

For these reasons, claim 37 is allowable and the §103 rejection should be withdrawn.

Dependent claim 46 depends from claim 45 and is allowable by virtue of this dependency.

Independent claim 47 defines a method comprising:

> receiving key entries entered via a numeric-based keypad where number keys in the keypad have associated letters;
>
> associating strings of key entries with language characters that are different than the letters; and
>
> presenting likely language characters intended by the user as the user depresses individual keys.

For the reasons given above with respect to claims 17 and 21, the cited combination fails to teach the method of claim 47, including "associating strings of key entries with language characters that are different than the letters" and "presenting likely language characters intended by the user as the user depresses individual keys." The §103 rejection should be withdrawn.

Dependent claim 48 depends from claim 47 and is allowable by virtue of this dependency.

Independent claim 49 recites a method comprising:

> receiving an input string of letters entered via a numeric-based keypad where number keys in the keypad have associated letters, the input string of letters being representative of one or more phonetic characters;
>
> converting the input string of letters that represent the phonetic characters to possible language characters based upon a context of at least one word in a sentence within which the input string is a part; and
>
> presenting the possible language characters for selection by the user.

For the reasons given above with respect to claim 24, the cited combination does not teach or suggest this method. The §103 rejection should be withdrawn.

Dependent claim 50 depends from claim 49, and is allowable by virtue of this dependency.

Independent claim 51 is noted as being rejected as being unpatentable over Ouyang and Chen. However, this rejection is believed to have been made in error, as claim 51 is rejected subsequently in view of Ouyang, Chen, and Matsuzuka. (*Office Action of 2/9/05*, page 8, section 4). In this section, the Office states that Ouyang and Chen along fails to teach aspects of claim 51, and hence the rejection here in view of Ouyang and Chen alone should be withdrawn. Claim 51 is addressed in detail below.

Independent claim 52 defines a mobile device, comprising:

> a keypad of number keys, the number keys having associated letters of an alphabet;
>
> a language system to receive an input string of letters from the alphabet entered via associated number keys of the keypad, where the input string of letters is representative of one or more phonetic characters, and to generate likely language characters based on the input string; and
>
> a display to present the likely language characters for user selection.

For the reasons given above with respect to claims 1, the Ouyang/Chen combination fails to teach or suggest the claimed mobile device.

Dependent claims 53-57 and 59-60 depend from claim 52 and are allowable by virtue of this dependency. Claims 53, 54, 55, 57, and 59 also benefit

from arguments made above with respect to claim 3, 4, 21, 24, and 17, respectively.

Ouyang + Chen + Kantrowitz

Claims 8 and 58 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ouyang in view of Chen and further in view of U.S. Patent No. 6,292,772 to Kantrowitz (hereinafter, "Kantrowitz"). Applicant respectfully traverses the rejection.

Dependent claim 8 depends from claim 1 and further requires that the language system include "a character-based bigram language model and a word-based N-gram language model, where N>2." The Office recognizes that Ouyang and Chen fail to teach these aspects, and thus relies on Kantrowitz. However, Kantrowitz provides no teaching of a device having the language system of claim 1, where the language system facilitates "input of the input string and selection of a language character without switching modes between input and selection." Additionally, the combination is improper as there is no suggestion in Chen or Kantrowitz to modify the process intensive morphology and syntactical analyses of Chen to implement the claimed bigram language model and word-based N-gram language model. Accordingly, the combination of Ouyang, Chen, and Kantrowitz fails to teach the device of claim 8. For these reasons, claim 8 should be allowed.

Dependent claim 58 depends from claim 52 and further requires that the language system include "a character-based bigram language model and a word-based N-gram language model, where N>2." Kantrowitz fails to provide the

teaching missing from Ouyang and Chen with respect to claim 52, and hence claim 58 should be allowed.

Ouyang + Chen + Kiraz

Claims 12-13, 34-35, and 43-44 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ouyang in view of Chen, and further in view of U.S. Patent No. 6,307,541 to Kiraz (hereinafter, "Kiraz"). Applicant respectfully traverses the rejection.

Dependent claims 12-13, 34-35, and 43-44 depend respectively from claims 1, 29, and 37. The Office recognizes that Ouyang and Chen do not teach the language system defined in these dependent claims, but cites Kiraz for their teaching. However, Kiraz fails to provide any of the teaching absent from Ouyang and Chen as to the devices and methods of base claims 1, 29, and 37. Accordingly, the combination fails to teach or suggest the claims 12-13, 34-35, and 43-44.

Ouyang + Chen + Matsuzuka

Claims 14, 27, and 51 are rejected under 35 U.S.C. § 103 as being unpatentable over Ouyang in view of Chen, and further in view of U.S. Patent No. 5,838,972 to Matsuzuka et al. (hereinafter, "Matsuzuka"). Applicant respectfully traverses the rejection.

Dependent claim 14 depends from claim 1, and hence includes the features therein. Ouyang and Chen fail to teach or suggest the aspects of claim 1, including a "language system being configured to facilitate input of the input string and selection of a language character without switching modes between

input and selection." Matsuzuka fails to add any relevant teaching with respect to this feature. Accordingly, the combination of Ouyang, Chen, and Matsuzuka fails to teach or suggest the device of claim 14.

Independent claim 27 defines a system comprising:

> a resident language model residing on a mobile device to convert phonetic characters input into the mobile device into language characters using a first statistical language model; and
>
> a nonresident language model residing on a server remote from the mobile device, the nonresident language model being configured to convert the phonetic characters into the language characters using a second statistical language model.

The cited combination of Ouyang, Chen, and Matsuzuka fails to teach or suggest the claimed system. First, none of Ouyang, Chen, or Matsuzuka teaches a "resident language model residing on a mobile device to convert phonetic characters input into the mobile device into language characters using a first statistical language model." As noted above, Ouyang does not employ a statistical language model. Matsuzuka fails to provide any teaching of a "mobile device to convert phonetic characters input into the mobile device into language characters using a first statistical language model." For this reason alone, claim 27 is allowable.

Secondly, none of the references, alone or in combination, teaches a system with *both* a "resident language model residing on a mobile device" and "a nonresident language model residing on a server remote from the mobile device." Ouyang describes a portable device, Ouyang describes a PC-based computing system, and Matsuzuka refers to a remote server model where a language model is executed on a remote server, rather than the client. However, none of these

references teaches that a system where one language model resides on the mobile device and the second language model resides on the server. Indeed, without Applicant's claim as a roadmap, there are no express teachings in Ouyang, Chen, or Matsuzuka that would even suggest such a combination. For this additional reason, claim 27 is allowable.

Independent claim 51 defines a method comprising:

> receiving an input string entered via a keypad on a mobile device;
>
> sending the input string to a remote server;
>
> generating likely language characters based on the input string at the remote server; and
>
> returning the likely language characters to the mobile device for display.

For similar reasons noted above with respect to claim 27, the Ouyang/Chen/Matsuzuka combination fails to teach or suggest this method.

Ouyang + Chen + Kantrowitz + Kantrowitz

Claim 28 is rejected under 35 U.S.C. § 103 as being unpatentable over Ouyang in view of Chen and Matsuzuka and further in view of Kantrowitz. Applicant respectfully traverses the rejection.

Dependent claim 28 depends from claim 27. For the reasons given above, Ouyang, Chen, and Matsuzuka fail to teach the system of claim 27. Kantrowitz does not offer any of the missing teaching. Accordingly, the combination of Ouyang, Chen, Matsuzuka, and Kantrowitz does not suggest the system of dependent claim 28.

Conclusion

Claims 1-60 are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of the subject application. If any issue remains unresolved that would prevent allowance of this case, the Examiner is requested to contact the undersigned attorney to resolve the issue.

Respectfully Submitted,

Date: June 7, 2005

By: _____

Lewis C. Lee
Lee & Hayes, pllc
Reg. No. 34,656
(509) 324-9256 ext. 211